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SITE ASSESSMENT TECHNICAL ASSISTANCE

EPA CONTRACT 68-S5-30

3 February 2000

Mr. Mike Towle (3HS31)
On-Scene Coordinator

TDD No. 0001-90
DCN F0000054

U.S. Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103-2029

Subject: 12th Street Landfill Site – Sampling Plan Addendum

Dear Mr. Towle:

Enclosed is the 12th Street Landfill Site Sampling Plan Addendum for the additional sampling to be conducted at the site. Please feel free to contact me at (215) 238-0338, Ext. 237, regarding any aspect of this plan.

Very truly yours,

ROY F. WESTON, INC.

Paul M. Davis
Site Leader

Attachment

cc: TDD File

approved
4 Feb 00

SATA0303961 Sampling Plan Addendum

SAMPLING PLAN ADDENDUM

12th Street Landfill Site
Wilmington, New Castle County, Delaware

TDD No. 0001-90
Contract No. 68-S5-3002

1.0 INTRODUCTION

On 26 January 2000, the Roy F. Weston, Inc. (WESTON®), Site Assessment Technical Assistance (SATA) team was directed by U.S. Environmental Protection Agency (EPA) Region III Removal Response Section On-Scene Coordinator (OSC) Mike Towle to conduct additional sampling, as part of the removal assessment at the 12th Street Landfill Site, Wilmington, New Castle County, Delaware. This additional sampling will aid in the ecological assessment needed to support the environmental risk assessment.

Additional sediment samples will be collected near the site in order to further delineate the extent of contamination on and off site. Also, soil samples will be collected for bio-assay analysis. Analytical results will be used to support the EPA's decision to use a specific type of erosion control measure along the stream bank depending on the toxicity results of the soil bio-assay sample results. See 12th Street Landfill Sampling Plan dated 22 December 1999, for background information.

2.0 SCOPE OF WORK

Sediment samples will be collected between the creek bank and the riprap line along the eastern side of the Brandywine Creek, adjacent to the site. The sediment sample locations will be located at previous sediment sample locations and biased toward the locations with elevated lead results. A sample will be obtained from a depth of 6 inches from as many as 10 locations. Also, a sediment sample will be collected at a deeper depth (12 inches) from the same location if the sediment layer is thick enough. The sediment samples will be analyzed by the Delaware Department of Natural Resources and Environmental Control (DNREC) x-ray fluorescence (XRF) instrument. In addition to the sample collection, another objective of the sediment sampling will be to determine the thickness of the sediment deposits over the rocky riprap layer.

Four soil samples will be collected from previous soil sample locations in the area of concern and collected from the locations that ranged from the lowest to the highest lead results. A background sample will also be collected. The soil samples will be analyzed for bio-assay parameters as well as TAL metals, TCL semivolatiles, and pesticides/PCBs.

2.1 Data Use

The data will be used to characterize the extent of the contamination and the potential environmental threat through migration of hazardous substances from contaminated soil and deteriorated buried drums. Also, the data will be used to support the EPA's decision to use a specific type of erosion control measure along the stream bank depending on the toxicity results of the soil bio-assay sample results. The analytical data will be compared to EPA Region III emergency removal guidelines (ERGs) and other applicable guidance.

2.2 Soil Sampling

A shovel will be used to obtain the soil samples. The soil will be homogenized and placed into the appropriate containers and forwarded to the laboratories for analysis. For samples collected from 0 to 6 inches deep, collection will be conducted in accordance with SATA SOP No. 302, Surface Soil Sampling, by a SATA member (SATA, 1998). For samples collected below 6 inches, the samples will be collected in accordance with SATA SOP No. 304, Subsurface Soil Sampling, by a SATA member (SATA, 1998). The soil samples will not be collected deeper than 12 inches.

2.3 Sediment Sampling

A hand auger will be used to collect the sediment samples. The hand auger will be advanced to the appropriate depth and a sediment sample will then be collected. The sediment samples will be collected in accordance with SATA SOP No. 303, Sediment Sampling (SATA, 1998).

2.4 Background Sample

The soil background sample will be collected from the same location as the second phase (11-13 January 2000) removal assessment sample number SS-32. If the location of SS-32 is inaccessible either location SS-30 or SS-31 will be used as the background sample. A SATA member will collect the background sample in accordance with SATA SOP No. 302, Surface Soil Sampling and SATA SOP No. 304, Subsurface Soil Sampling (SATA, 1998).

3.0 ANALYTICAL PARAMETERS

The DNREC XRF instrument will be used to analyze the sediment samples. The soil samples will be analyzed for bio-assay 14-day acute test on earthworms as well as TAL metals, TCL semivolatiles, and TCL pesticides/PCBs. All samples collected in relation to the 12th Street Landfill Site will be identified with the sample prefix "TS" in addition to the sample type specification (see Table 1). Also, the sample numbering will begin where the second phase (11-13 January 2000) removal assessment sample numbering left off. The sediment samples will be identified as SED followed by a sequential number. The sediment sample numbering will use the same location numbering but will be designated with a letter A for the sample collected at the 6-inch depth. The letter B will designate the samples collected at the 12-inch depth. The surface soil samples will be identified as SS followed by a sequential number. The numbering will resume where the numbering left off during the previous sampling event (11-13 January 2000). The sediment samples will be sent to the DNREC on-site laboratory and minimally screened for lead using their XRF instrument. It is anticipated that as many as 20 sediment samples will be collected (10 locations with potentially two different depths). It is anticipated that five surface soil samples will be collected (four source samples and one background sample). The source surface soil samples will be collected from the same (11-13 January 2000) sampling event locations SS-09, SS-12, SS-14, and SS-28. The

sample matrices to be collected, parameters to be analyzed, analysis methods, sample containers needed, and detection limits required are provided in Table 1 for all samples.

Table 1
Analytical Parameters

Sample Location	Matrix	Analytical Parameter	Test Method	Containers Used Preservatives Used	Detection Limits
TS-SED-05A/B, TS-SED-07A/B, TS-SED-08A/B, TS-SED-09A/B, TS-SED-11A/B, TS-SED-15A/B, TS-SED-18A/B, TS-SED-23A/B, TS-SED-24A/B, and TS-SED-25A/B	Sediment	Lead	DNREC XRF instrument	1 4-oz wide mouth glass jar	2.7 ppm
TS-SS-34 through TS-SS-37 and TS-BG-04	Soil	14-day Acute Test on Earthworms	ASTM No. E1676-97	Minimum of 2 gallons homogenized in a 5 gallon bucket.	N/A
TS-SS-34 through TS-SS-37 and TS-BG-04	Soil	Total Metals	CLP SOW ILM04.0	1 8-oz wide mouth glass jar	CRDL
TS-SS-34 through TS-SS-37 and TS-BG-04	Soil	Semivolatile Organic Compounds	CLP SOW OLM03.2	1 8-oz wide mouth glass jar	CRDL
		Pesticide and PCBs	CLP SOW OLM03.2		

CRDL = Contract Required Detection Limit SS = Surface Soil SOW = Statement of Work OLM = Organic Low method #
ILM = Inorganic Low Method # BG-04 = Background surface soil for the bio-assay sample

4.0 REFERENCES

SATA (Site Assessment Technical Assistance). 1998. *Compendium of SATA Standard Operating Procedures.* Delran, NJ.